

P&K Sand & Gravel, Inc. – Heath Quarry)
Cumberland County)
Casco, Maine)
A-741-71-C-R/A (SM))

Departmental
Findings of Fact and Order
Air Emission License
After-the-Fact

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

P&K Sand and Gravel (P&K) has applied to renew their Air Emission License permitting the operation of a crushed stone facility located in Casco, Maine. P & K Sand and Gravel has requested their license be amended with the addition of four rock crushers and four generators, previously located and licensed at their Naples facility. The annual fuel use restriction for the facility is also be increased with the addition of the new equipment.

B. Emission Equipment

Rock Crushers:

<u>Emission Unit</u>	<u>Type of Equipment</u>	<u>Process Rate (tons/hour)</u>	<u>Control Device</u>	<u>Date of Manufacture</u>
Primary #1	Stationary jaw crusher	350	Water Sprays	1986
4' Cone	Stationary cone crusher	150	Water Sprays	1973
42" Cone	Stationary cone crusher	150	Water Sprays	1985
B Lenox	Portable jaw crusher	100	Water Sprays	1988
Impact	Portable crusher	100	Water Sprays	1975

Diesel Units:

<u>Source ID</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Power Output (hp)</u>
Generator A170	5.54	40.4	726
Generator RA171	6.05	44.2	861
Generator A164	1.03	7.5	320
Generator A165	0.7	5.1	100
Generator A166	0.96	7.0	300

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P&K Sand and Gravel also operates one 7 x 24 scalp screen, one 7 x 20 size screen, an R&R wash deck and a CEC wash deck. This equipment is listed for inventory purposes only.

C. Application Classification

The application for P&K Sand and Gravel includes a renewal of current licensed emission units plus the addition of four rock crushers and four generators to the license. The license is therefore considered to be a renewal plus an after-the-fact amendment.

II. BEST PRACTICAL TREATMENT

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

A. Rock Crushers

P&K operates several stationary and portable rock crushers with rated capacities between 100 and 350 tons/hr, and manufactured between 1973 and 1988. EPA New Source Performance Standards (NSPS) Subpart OOO for Nonmetallic Mineral Processing Plants applies to rock crushers constructed after August 31, 1983 with capacities greater than 25 tons/hr for stationary crushers and greater than 150 tons/hr for portable crushers. Therefore the Primary #1 and 42" Cone Crushers are subject to Subpart OOO. All three stationary crushers are subject to the recordkeeping requirements of Subpart OOO, Section 60.676. In order to avoid NSPS recordkeeping requirements, P&K Sand and Gravel shall perform initial performance tests on the Primary #1, 4' Cone and 42" Cone Crushers before the spring 2004 start-up date.

The B Lenox Crusher was previously licensed; the other crushers are new.

BPT for the B Lenox and BACT for the other crushers is the following:

Visible emissions from the rock crushers shall be limited to no greater than 10% opacity on a six (6) minute block average basis. P&K shall maintain and operate water sprays as needed to control particulate matter from the crushers.

B. Diesel Units

P&K operates five generators with maximum capacities of between 0.7 and 6.05 MMBtu/hr. Generator A164 was previously licensed. The other four generators are new.

BPT for Generator A164 and BACT for the other generators is the following:

1. Use of 0.05% sulfur diesel fuel.
2. PM, NO_x, CO and VOC emission limits for Generators A164, A165 and A166 based on AP-42 data dated 10/96 for diesel units smaller than 600 hp. PM₁₀ emission limits are based on PM limits.
3. NO_x, CO and VOC emission limits for Generators A170 and RA171 are based on AP-42 data dated 10/96 for diesel units larger than 600 hp.
4. MEDEP Chapter 103 regulates PM emission limits from Generators A170 and RA171, for fuel burning equipment greater than 3 MMBtu/hr. PM₁₀ emission limits are based on PM limits.
5. Visible emissions from the stack of each generator (stacks 1, 2, 6, 7 and 8) shall not exceed 30% opacity on a 6-minute block average, except for no more than 2 six minute block averages in a 3-hour period.

C. Stock Piles and Roadways

BPT for all potential sources of fugitive PM emissions, including material stockpiles and unpaved roadways, shall be controlled by wetting with water, with calcium chloride, or other methods as approved by the Bureau of Air Quality to prevent visible emissions in excess of 20% opacity, except for no more than five minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen second opacity observations which exceed 20 percent in any one hour.

D. Facility Emissions and Fuel Use Caps

P&K Sand and Gravel shall restrict fuel use to 65,000 gallons of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight on a 12 month rolling total.

Total Annual Emissions for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/year
PM	1.38
PM ₁₀	1.38
SO ₂	0.23
NO _x	19.7
CO	4.23
VOC	1.56

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the total facility emissions, P&K Sand and Gravel is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-741-71-C-R/A, subject to the following conditions:

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department

deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.

- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department’s air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility’s normal process and operating conditions:
 - (a) within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - (b) pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility’s normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility’s normal process and operating conditions and in accordance with the Department’s air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and,
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

SPECIFIC CONDITIONS

- (16) Rock Crushers
 - (i) P&K shall operate and maintain water sprays as needed for particulate control on all rock crushers. Visible emissions from each crusher shall not exceed 10% opacity on a six (6) minute block average basis. [MEDEP Chapter 101(2)(B)(3)(b)]
 - (ii) P&K shall maintain a log detailing the downtime and maintenance activities on the water spray nozzles. The maintenance log shall be located at the facility whenever the facility is in operation. [MEDEP Chapter 115, BACT]
 - (iii) P&K shall maintain a log detailing and quantifying the hours of operation on a daily basis for all rock crushers. The operation log shall be located at the facility whenever the facility is in operation. [MEDEP Chapter 115, BACT]
 - (iv) The Primary #1 and 42" Cone Crushers are subject to 40 CFR Part 60 Subparts A and OOO. Additionally, the 4' Cone Crusher is subject to the recordkeeping requirements of Subpart OOO. P&K shall comply with the applicable testing, notification, recordkeeping, and opacity requirements of these Subparts. Pursuant to Subpart A, §60.7(a)(4), P&K shall notify the Department of any physical or operational change to their facility which may increase the emission rate of any regulated air pollutant. This notice must be postmarked at least 60 days or as soon as practical before the change is commenced, and shall include the following information:

- (a) A description of the precise nature of the change;
- (b) Present and proposed emission control systems;
- (c) Productive capacity of the facility before and after the change; and,
- (d) The expected completion date of the change.
- (v) P&K shall have an initial performance test performed on the rock crushing operation per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675. This consists of a certified Method 9 observation on the Primary #1 Crusher, the 42" Cone Crusher, and, to avoid recordkeeping requirements of Subpart OOO, the 4' Cone Crusher. The performance test shall be completed within 60 days after achieving the maximum production rate at which the unit will be operated. P&K shall submit a test notice to the regional inspector at least 30 days prior to the performance test. Any rescheduled test requires a 7-day notice to the regional inspector.

(17) Diesel Units

- (i) P&K Sand and Gravel shall not exceed the total use of 65,000 gal/year of diesel fuel based on a 12 month rolling total, with a sulfur content not to exceed 0.05% by weight. Fuel use records and receipts showing the sulfur content of the fuel shall be maintained on a 12-month rolling total basis. [MEDEP Chapter 115, BACT]
- (ii) Emissions from the Diesel Generators shall not exceed the following:

**Diesel Unit Emission Limits
(per unit)**

	PM		PM ₁₀	SO ₂	NO _x	CO	VOC
	lb/MMBtu	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Gen. A170	0.12	0.67	0.67	0.29	17.73	4.7	0.46
Gen. RA171	0.12	0.73	0.73	0.32	19.4	5.15	0.50
Gen. A164	--	0.32	0.32	0.06	4.55	0.98	0.36
Gen. A165	--	0.22	0.22	0.04	3.09	0.67	0.25
Gen. A166	--	0.30	0.30	0.05	4.24	0.92	0.34

Compliance shall be demonstrated through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A, and by request of the Department. [MEDEP Chapter 115, BACT]

- (iii) Visible emissions from the stack of each generator (stacks 1, 2, 6, 7 and 8) shall not exceed 30% opacity on a 6-minute block average, except for no more than 2 six minute block averages in a 3-hour period. [MEDEP Chapter 101(2)(B)(1)(d)]

(18) Potential sources of fugitive PM emissions, including material stockpiles and unpaved roadways, shall be controlled by wetting with water, with calcium chloride, or other methods as approved by the Bureau of Air Quality to prevent visible emissions in excess of 20% opacity, except for no more than five minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen second opacity observations which exceed 20 percent in any one hour. [MEDEP Chapter 101(2)(B)(4)(a)]

(19) Equipment Relocation

- (i) P&K shall notify the Bureau of Air Quality, by a written notification at least 10 days in advance, prior to relocation of any equipment carried on this license. The notification shall be sent to:

Attn: Relocation Notice
Maine DEP Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

The notification shall include the address of the equipment's new location and the license number pertaining to the relocated equipment.

- (ii) Written notification shall also be made to the municipality where the equipment will be relocated, except in the case of an unorganized territory where notification will be made to the respective county commissioners.

(20) P&K shall keep a copy of this Order on site, and have the operator(s) be familiar with the terms of this Order.

(21) P&K shall pay the annual air emission license fee within 30 days of August 31 of each year. Pursuant to Title 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under Title 38 MRSA §341-D, subsection 3.

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(22) The term of this order shall be for five (5) years from the signature date below [MEDEP Chapter 115].

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: August 7, 2003

Date of application acceptance: August 19, 2003

Date filed with the Board of Environmental Protection: _____

This Order prepared by Rachel E. Pilling, Bureau of Air Quality